

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species A, claims 34, 37, and 47 in the reply filed on March 8, 2010 is acknowledged.
2. The renumbering of claims 59-64 as 58-63 has been noted.
3. The status of the claims is as follows: Claims 1-6, 23-28, 31, 33-63 are pending. Claims 1-6, 23-28, 31, 33, 35-36, 38-39, 41-42, 44-46, and 63 have been withdrawn. Claims 34, 37, 40, 43, 47-62 are currently under prosecution.

Response to Amendment

4. The rejection of claims 1-6, 23-28, 31, and 33-34 under 35 U.S.C. 112, first paragraph is moot in view of applicants' amendment.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 52 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 52 contains the trademark/trade name "VINCH 500" and "17-41B". Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used

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properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the vinyl ester resin material and, accordingly, the identification/description is indefinite.

Claim Rejections - 35 USC § 103

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 34, 37, 40, 43, 47-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Levy et al., 4,479,984 (Levy) in view of Fernyhough et al., 5,700,417 (Fernyhough), and further in view of Fernyhough et al. 5,935,508 (Fernyhough '508).

The prior art reference Bringuier 6,249,629 B1 has been withdrawn for simplification purposes in view of the teachings in Levy and Fernyhough that cable jackets can be applied to their reinforced rod.

The Prior Art

Levy teaches multifilament bundles impregnated with an ultraviolet curable resin to form a composite material suitable for use as a strength member in optical fiber cables. The filaments can be KEVLAR yarn, E-glass or S-glass rovings. See Table III. In addition, Levy teaches that a secondary coating may be applied around the composite. See column 10, lines 37-39. In addition, Levy teaches that a cable sheath can be applied over the composite strength members. See column 6, lines 3-5

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Fernyhough '417 teaches a fiber reinforced rod comprising a plurality of fibers coated with a UV curable resin material, which can be vinyl ester. See column 2, line 18 and column 5, lines 5-6 and 17-18. In addition, Fernyhough teaches that his UV curable resin can be blended with copolymers of ethylene with esters of acrylic acid, acrylic copolymers, copolymers of ethylene with vinyl esters of carboxylic acids, including terpolymers where the third monomer is an unsaturated acid such as acrylic or methacrylic acid. See column 3, lines 16-67. Fernyhough also teaches that an outer coating of the same resin formulation can be used (see column 5, lines 16-18). It is also noted that Fernyhough teaches that an outer "jacket" can be applied to the strength member. See column 6, lines 52-58.

Fernyhough '508 teaches the formation of fiber resin rods that can be used as reinforcements. See column 15, lines 17-18. Fernyhough teaches that the resin is a UV curable matrix that can be a vinyl ester and that formulations containing ethylene acrylic acid can be used. See column 8, lines 1-13 and column 18, line 26. In addition, Fernyhough teaches that an outer coating may be applied that is the same or different from the formulation used in the impregnation stage. See column 7, lines 44-46. Also, Fernyhough teaches that his fibers are of the type contemplated by applicants such as glass and aramid, further teaching that mixtures, such as glass and aramid may also be used. See column 15, lines 25-36.

Levy and Fernyhough '417 and '508 each teach fiber reinforced rods that can be used as reinforcement, Levy and Fernyhough '417 additionally teaching strength members for use in cables. Each of the prior art references teach that their fiber

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reinforced rods comprise an UV cured vinyl ester resin matrix material having a plurality of elongated fiber members encased therein, and wherein an outer topcoat can be applied thereto. Therefore, Levy and Fernyhough '417 and '508 are in the same field of endeavor and are analogous art.

Regarding Independent claims 34, 37, and 47

Levy is as set forth above and teaches a fiber reinforced rod comprising a plurality of elongated fiber members encased in a matrix of a UV cured vinyl ester resin wherein an outer topcoat layer can be applied but does not teach an outer topcoat layer including a hot melt ethylene acrylic acid polymer resin.

Levy is silent as to the specific outer topcoat layer. However, the teachings of Fernyhough '417 and '508 would have provided a suggestion to the skilled artisan to use a polymer resin that is the same or different from that of the matrix. As set forth above, Fernyhough '417 teaches that his UV curable resin can be blended with copolymers of ethylene with esters of acrylic acid, acrylic copolymers, copolymers of ethylene with vinyl esters of carboxylic acids, including terpolymers where the third monomer is an unsaturated acid such as acrylic or methacrylic acid. This teaching would have provided a suggestion to the skilled artisan that ethylene acrylic acid could be used with a reasonable expectation of success. Additionally, Fernyhough '508 teaches a matrix polymer resin that can comprise an ethylene acrylic acid polymer resin.

Each of the claimed elements were known in the art at the time the invention was made and one skilled in the art could have combined them by known methods with no

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change in their respective functions, and the combination would have yielded predictable results to one of ordinary skill in the art at the time the invention was made. Accordingly, it would have been obvious to form a fiber reinforced rod as taught by Levy that includes an outer topcoat layer, and said layer includes an ethylene acrylic acid polymer resin, as taught by Fernyhough '417 and '508.

Regarding the limitation of "to impart specific bonding characteristics to said rod", this language is functional language and does not add patentable weight. "While features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. MPEP 2114. Furthermore, claims 34, 37 and 47 do not distinguish the ethylene acrylic acid, thus, the skilled artisan would reasonably that the ethylene acrylic acid taught in the prior art would function as intended in the absence of factual evidence to the contrary. Regarding the melting point of the vinyl ester, the teachings of Fernyhough at columns 2 and 3 would have provided a suggestion to the skilled artisan that any UV curable vinyl ester resin material could be used with the reasonable expectation of success absent clear factual evidence on this record of unexpected or superior properties that are directly related to the specific vinyl ester resin of the claimed critical melting point.

Regarding dependent claims 40, 43, and 48-62

As to claims 40, 43 and 60, Levy and Fernyhough '417 each teach that a jacket can be applied. See for example, Levy, column 6, lines 3-5 and Fernyhough '417, column 6, lines 52-58.

As to claims 48-51 and 59, Levy teaches that his fibers can be selected from E glass fibers, S glass fibers or aramid. See Table III.

As to claims 53-58, Fernyhough specifically teaches polyethylene terephthalate fibers and aramid fibers and mixtures of these with glass fibers. See column 4, lines 34 and 37-38. This teaching would have provided motivation to the skilled artisan to modify the teachings of Levy by forming a composite rod comprising a mixture of filaments, said mixture being glass and aramid fibers or glass and polyethylene terephthalate fibers. As to a plurality of E-glass fibers and S-glass fibers, this limitation is a matter of design choice, and not construed to be matter of invention. Moreover, it would have been obvious to use a mixture of the two types of glass fibers to obtain the efficacious properties associated therewith, namely, the added strength of S-glass fibers and reduced cost of E-glass fibers.

As to claim 52, it is the examiner's position that the teachings of Fernyhough would encompass any UV curable vinyl ester resin material known in the art including those of the type contemplated by applicants.

Regarding claims 61-63, it would have been obvious to the skilled artisan during routine experimentation to choose and determine the specific vinyl ester resin and/or ethylene acrylic acid polymer commensurate with the desired properties of the end product, in the absence of clear factual evidence on this record of unexpected or superior properties that are directly related to the specific melting point ranges of the vinyl ester resin material or the ethylene acrylic acid polymer resin.

Therefore, the combined teachings of Levy and Fernyhough

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417 and '508 would have rendered obvious the invention as claimed in present claims 34, 37, 40, 43, 47-62.

Response to Arguments

9. Applicant's arguments with respect to claims 34, 37, 40, 43, 47-62 have been considered but are moot in view of the new ground(s) of rejection.

No claims are allowed.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jill Gray whose telephone number is 571-272-1524.

The examiner can normally be reached on M-Th and alternate Fridays 10:00-6:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rena Dye can be reached on 571-272-3186. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jill Gray/
Primary Examiner
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jmg